Challenge TB - CAMBODIA

Year 2

Quarterly Monitoring Report
October-December 2015

Submission date: January 30, 2016

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Cover photo: *Semi Active Case Finding among Elderly in Ptas Check Pagoda, Pursat province (Credit: Ngo Menghak)*

This report was made possible through the support for Challenge TB provided by the United States Agency for International Development (USAID), under the terms of cooperative agreement number AID-OAA-A-14-00029.

1. Quarterly Overview

Country	Cambodia
Lead Partner	FHI 360
Other partners	WHO
Workplan timeframe	October 2015 – September 2016
Reporting period	October - December 2015

Most significant achievements:

I. ASSESSMENT OF CHILDHOOD TB

While childhood tuberculosis (TB) is estimated to make up 10-20% of total TB cases in high-burden settings[1], this proportion ranges from 1.3% to 39.4% throughout Cambodia's 25 provinces, suggesting potential under- and over-diagnosis of childhood TB subrationally. To better understand potential over-reporting of childhood TB, Challenge TB (CTB) with National Center for Anti tuberculosis (CENAT) conducted a cross-sectional study at referral hospitals and villages in the 26 "high case-finding" Operational Districts (ODs) that had populations above 100,000 and childhood TB of 25% or higher among all TB cases. Referral hospitals (RH) were chosen as the health facility of interest because they are the primary location where children undergo diagnosis for TB in Cambodia. Clinicians were interviewed at referral hospitals. To cross check and corroborate clinician data, parent/guardians of children who had been diagnosed and started treatment within the past three months were interviewed in their village homes.

A total of 40 clinicians who regularly diagnosed childhood TB at referral hospitals either clinically or bacteriologically, and 104 parent/guardians were interviewed. Parent/guardians of children were selected systematically as the four most recent children that had been diagnosed with TB at the referral hospital, according to the facility's TB records. The result of the assessment had found 73% of clinicians were able to name 5 out of 7 main TB screening criteria for childhood TB (n=40). However, parent/guardian data suggests that clinicians may mis-diagnosed as it found that 60% of parent/guardians whose children were diagnosed with lymph node TB described that lymph node characteristics were not consistent with TB because, for example, they were either small (less than 2 cm), not painful or not progressively enlarging.

The study recommends the following:

- Build the clinical capacity of clinicians to diagnose Childhood TB, including the ability to perform a systematic clinical examination, and accurately interpret laboratory and radiology
  - Specifically add training on the advantages and limitations of GeneXpert for diagnosing childhood TB. Also, disseminate and train on WHO SOPS which detail what needs to be done in laboratories that plan to process gastric aspirates and specimens from biopsy of extrapulmonary sites (http://www.who.int/tb/laboratory/xpert_launchupdate/en/).
- Improve the national guidelines and algorithms for diagnosing childhood TB.
- Improve and expand existing data collection instruments and records at health facilities to promote "locally tailored" solutions, and evidence-based policy.

[1] WHO/TheUnion/Unicef/CDC/USAID/TAG. (2013). Roadmap for childhood tuberculosis: towards zero deaths. *Geneva: World Health Organization.*

The results of the study were shared in a consultative meeting with the technical team of CENAT and will be further shared with the director of CENAT. A total of 20 CENAT technical staff attended the meeting. The meeting participants agreed to take key actions to strengthen the clinical supervision and coaching at the sites with hands-on support to the TB clinicians at RHs. CTB staff currently conducts field visits and provides on sites coaching with TB supervisor at RH. At the meantime, CTB is hiring a local consultant to provide capacity building on CXR reading to clinicians at RH through on site coaching. We still discuss with CENAT on the buy in process.

II. SUB-GRANT DEVELOPMENT AND PLANNING

During this reporting period, 14 In-Kind Grants with government counterparts in the 14 provinces and two sub-grants with two local organization called Cambodia Anti-Tuberculosis Association (CATA) and Cambodia Health Committee (CHC) were developed. The 14 packages of In-Kind Grants have been approved by PMU.

The planning meetings on TB activities of CTB and Empowerment Community for Health (ECH) within three provinces namely Battambang, Pursat and Kampong Speu were organized to inform the Provincial Health Department (PHD) Directors, staff at every level- Health Center (HC), OD and Referral Hospital (RH) about the CTB project, the mechanism of support, programmatic and geographic targeted areas, the jointed planned TB activities of the two organizations in Year 2.

III. NUMERATION OF ELDERLY POPULATION IN PREPARATION FOR TARGET INTERVENTION

CTB, in close collaboration with PHD/OD/Health Center (HCs) and local authorities, conducted a numeration exercise of elderly individuals, defined as age 55 and above, in two ODs-Prey Chhor (PC) and Tbong Khmum (TKM). The objective of the exercise is to obtain a more accurate denominator for tracking the coverage of TB services among elderly people. This will be followed by an intervention that includes the development of a follow-up system for those who are identified as presumptive TB patients to ensure they complete work-up for diagnosis. If the test-result is positive, s/he will get treatment. The numeration exercise was performed in two ODs, where there are 29 HCs **and 419 villages** (PC: 176 and TKM: 243). Approximately **41,311** elderly people (female: 21,778; 52,7%) were identified - accounting for approximately 10.7% of the total population of 442,027. There were also 126 pagodas and 19 mosques identified (PC: 59, TKM: 86) which are needed to implement the TB screening in year 2. The chiefs of HCs and villages actively participated in the activity at their respective villages.

IV. EDUCATIONAL TOOLS DEVELOPMENTS

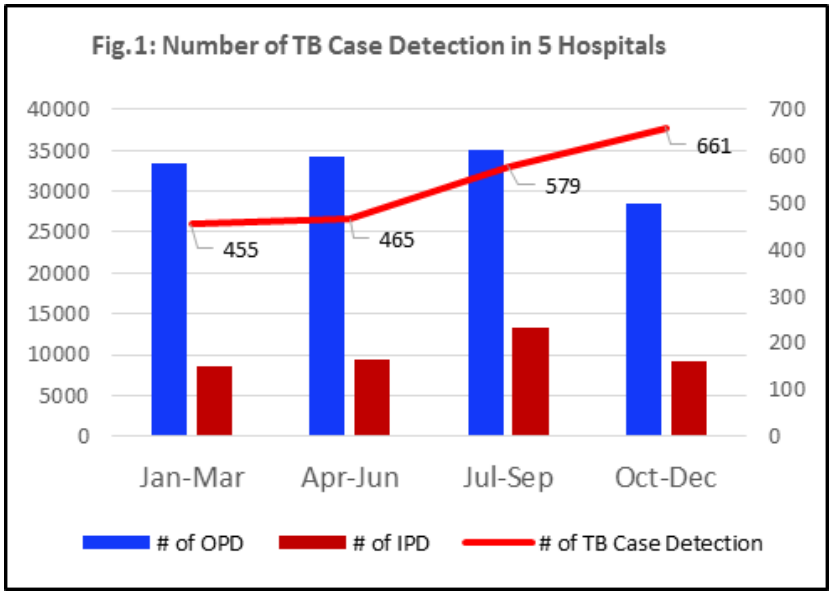
During this reporting period, CTB has developed two educational posters. The first poster is to instruct presumptive TB patients to collect good quality sputum and its primary audiences are all presumptive TB patients. The second one is to increase knowledge and awareness if one gets symptoms suggestive of TB and its primary audience is general populations and sick people at hospitals and community. The posters were pilot tested for understanding and acceptability with CTB team members and will continue to be field tested with the community. The aim is to display them at the HCs, RHs and public places such as pagoda under CTB's targeted areas on how to collect good quality of sputum and to remind sick people whose symptoms may suggest TB. If they do, they need to correctly seek TB diagnosis and treatment.

V. HOSPITAL ENGAGEMENT

In collaboration with CENAT and the Preventive Medicine Department (PMD), CTB provides technical assistance to five provincial RH-Battambang RH, Maung Rusey RH, Sampove Meas RH, Kampong Speu RH and Korng Pisey RH. We confirmed that the number of TB case notification increased by each quarter of 2015 (figure 1). During this reporting period (October to

December 2015), there were 37,782 clients presenting to OPD and IPD. Among those, 2,861 (76%) presumptive TB patients were identified at those settings and referred for diagnosis, of which 2,662 (93%) were received at the TB unit for diagnosis. Of these, 661 (25%) were diagnosed with TB. Base on this data, there is an increase of 14% compared to the previous quarter.

In addition, a cough triage strategy has been developed and implemented within those five hospitals. CTB team has discussed with Quality of Health Services, a separate USAID's grant, to include TB symptoms in the triage medical form as a way to remind physicians to screen every patient for TB. If this becomes successful, it will be used for the entire country.



Technical/administrative challenges and actions to overcome them:

- Most of the activities proposed in the Year 2 workplan have been approved by The Mission except local travel over land, development of National TB Laboratory Guidelines under FHI 360's budget and Public Private Mixed (PPM). In addition, some key activities, such as PPM, are still being discussed and are not able to be implemented until approval from the Mission.
    - **Action taken:** CTB has communicated with the activity task manager and also Program Management Unit at KNCV for their assistance.

- In Year 2, ECH has expanded its geographic areas in 7 ODs where CTB implemented in Year 1 to handover the community Directly Observed Therapy (DOT) activity to ECH. This transition made slow progress due to competing priorities of each organization. The decision of which target villages would be covered and supported was delayed which prevented CTB to plan activities with OD and HC staff. The delay will have an impact on the start-up of the field activities as it was intended. There are also some challenges in the capacity of the ECH team to absorb the concept of the strategy and tools developed by CTB.
    - **Action taken:** CTB has organized quite a number of meetings with ECH which also includes their Agreement Officer Representative (AOR) to discuss about the handover activity. CTB provided orientation to ECH staff on the approaches and organized a field visit to various sites.

- It was observed that the number of bacteriologically confirmed TB cases has gradually decreased based on the national and CTB program data and is less than one third of the total TB cases notification in 2014 (36% in 2013, 27% in 2014).[2] Yet, the diagnosis of

[2] In 2013, Bacteriologically conformed cases is 14,082 among 39, 055 of total TB case notification and in 2014, Bacteriologically conformed cases is 12,168 among 43,738 of total TB case notification

clinically confirmed TB cases is mostly based on CXR. CTB finds a lot of challenges to referral of presumptive TB patients to RH for CXR as (1) they do not want to go to RH as their symptoms are not addressed, (2) although the program is allowed to financially support the extremely poor patients for CXR, many others who are on the borderline of poverty may not have sufficient money to go and access to RH for workup diagnosis, (3) the hospital has the tendency to charge for CXR based on their income generation scheme and (4) no CXR machine at some RHs.

- **Action taken:** CTB has discussed with USAID's Social Health Protection, implemented by University of Research Company LLC, on the development of financial support scheme via Health Equity Fund. In addition, CTB will provide grant to CATA to implement the Active Case Finding under Operational Research which will relieve the issue on the accessibility to CXR temporarily. Yet, there is a need to identify a sustainable solution in a longer term. All these challenges are chronic and require a new mind set for the solution.

2. Year 2 activity progress

Sub-objective 1. Enabling environment								
Planned Key Activities for the Current Year	Activity #	Planned Milestones				Milestone status	Milestone met? (Met, partially, not met)	Remarks *(reason for not meeting milestone, actions to address challenges, etc.)*
		Oct-Dec 2015	Jan-Mar 2016	Apr-Jun 2016	Year end	Oct-Dec 2015		
Public Private Mix (PPM) TB DOTS	1.1.1	- Negotiate and establish MOU with PPs in target ODs - Sign MOU with PPs (private providers) - Map the private providers - Orientation the project with PPs for the startup of implementation	- Implement PP to all selected 3 ODs from Q2 onward— - track number of referral and TB diagnosed referred by PPs from Q2 onward	- Internal review the PPM activities - Sharing experience to CENAT and other stakeholders	PPM approach implemented, refined and plan to expand to other ODs	The PPM activity is being re-considered by the Mission and thus has not yet been approved.	**Not met**	TOR of consultant on PPM was developed, consultant was identified and submitted for concurrence to The Mission since 20 Nov 2015 but as per Milestone status, this has been put on hold.

Sub-objective 2. Comprehensive, high quality diagnostics								
Planned Key Activities for the Current Year	Activity #	Planned Milestones				Milestone status	Milestone met? (Met, partially, not met)	Remarks *(reason for not meeting milestone, actions to address challenges, etc.)*
		Oct-Dec 2015	Jan-Mar 2016	Apr-Jun 2016	Year end	Oct-Dec 2015		
National TB lab operational plan	2.1.1	-Discuss with CENAT lab director to form team to develop a lab operational plan -Review existing TB lab guidelines and other relevant	- Draft national lab operational plan with consultation with TB lab director - Consultative meeting to get comments / inputs on the	- Revise the lab operational plan according to the comments / inputs - Present the final draft operational plan to TB lab	Operational plan and lab guideline developed and use	**Accomplished** - CTB discussed initial plans with lab director of CENAT in order to develop lab operational plan. The Lab director agreed to conduct an annual operation plan workshop involving all provincial TB Lab supervisors.	**Partially met**	The consultative meeting will be organized in next quarter. CTB staff will provide technical support on the development.

		documents - Consultative meeting with key lab technicians/ supervisor and partners	draft	director and team on the revised		**Not accomplished** - Consultative meeting with key lab technician was not conducted.		
Provide TA to the lab at national, hospital and health center levels to ensure the quality of smear microscopy preparation and reading	2.2.1	- Act as a secretariat of Technical Working Group on laboratory throughout the year. - Conduct EQA to all 18% (40/215) microscopic centers. - Perform on site coaching at microscopic centers to ensure the good ability of smear preparation and reading in 10 of 40 microscopy centers which is scored lower than acceptable level on the EQA report)	- Onsite coaching to at least additional 10 microscopic centers whose EQA score is lower than acceptable level on EQA report. - Provide on-site coaching and support to Xpert sites which have problem of trouble shooting	- Conduct EQA to other additional 10 microscopic centers sites whose score lower than acceptable level on the EQA reports	- On site coaching to 40 microscopy centers under CTB geographic areas conducted. - Quality of smear preparation and result of reading is at acceptable level (as defined by EQA SOP)	**Accomplished** -CTB established as secretariat of TB Lab technical working group -2 TB Lab TWG meetings conducted **Not accomplished** No EQA has been done in reporting period	**Partially met**	EQA performance is under GF which did not conduct EQA during this period. Once the GF EQA begins, CTB will provide coaching support and improve capacity of the lab technicians whose lab was found to demonstrate poor performance via EQA. However, there was no any EQA was conducted in this period. CTB will provide coaching to the lab technicians where labs performance is found poor under EQA. CTB will not wait further and will use and review last year results (EQA) to conduct coaching accordingly.
Development of National TB Lab Guidelines	2.2.2	-Discuss with CENAT lab director to form team to develop a lab guideline -Review existing TB lab guidelines and other relevant	- Draft the guidelines include smear microscopy, Xpert and culture with consultation with TB lab director - Consultative	- Revise the guidelines according to the comments / inputs - Present with the draft guideline to TB lab director and	Final draft of guidelines	**Accomplished** - CTB discussed with lab director of CENAT in order to prepare lab guideline development. **Not accomplished** - Consultative meeting with key lab technician was not	**Partially met**	It is still in the process to develop milestone and TOR for the Short Term Technical Assistance (STTA) to develop laboratory guideline. The TOR will describe the requirement of task that STTA expects to perform such as smear microscopy, culture and drug sensitivity testing, and Xpert. The

		documents - Consultative meeting with key lab technicians/ supervisor and partners	meeting to get comments / inputs on the draft	team on the revised		conducted		TOR will be finalized in January. CTB will be seeking agreement with NTP on TOR and further submit to the Mission for their concurrence.
Revise national TB lab EQA SOP	2.2.3	- Work with national TB lab team to review the existing EQA SOP - Consultative meetings with EQA national assessors to get comments and inputs on EQA SOP	- Revise EQA SOP according to the comments/ inputs - Discuss with TB lab director on the revised EQA SOP	Finalize TB lab EQA SOP	Endorsement from NTP director on final version of EQA SOP		**Not met**	Delay in implementation due to competing priority with other activities of CENAT. It is hoped that CTB can get CENAT's approval to make this a priority for Q2 so that activities to revise this SOP will be caught up next quarter.
Improve the operation and performance quality of Xpert machines.	2.4.1	- Develop a simple operation instruction to operate and maintain the Xpert machines, using the manufacturer's guideline (e.g., Xpert machines on mobile vans, etc.) - Enforce system to avoid stock out of cartridge, throughout the year	- Coaching support on operation to Xpert machines at 33 sites from Q2 onward - Provide on-site training to lab technicians on the operation, maintaining and basic fixing from Q2 onward. - Operation instruction printed and distributed to Xpert machine sites		- Operation instruction printed and distributed to 33 Xpert machine sites	- Simple instruction on Xpert testing has been developed, and printed, as well as reporting and maintenance tools, - Excel spread sheet has been deployed and CTB is monitoring and reinforcing utilization of monthly report of test stratified by their results and type of eligibility . Currently, stock record is being kept up-to-date at the national level via Excel spread sheet.	**Met**	

Sub-objective 3. Patient-centered care and treatment					
Planned Key Activities for the	Activity #	Planned Milestones	Milestone status	Milestone	Remarks *(reason for not meeting*

Current Year		Oct-Dec 2015	Jan-Mar 2016	Apr-Jun 2016	Year end	Oct-Dec 2015	met? (Met, partially, not met)	*milestone, actions to address challenges, etc.)*
Elderly: Semi Active Case Finding (ACF)	3.1.1	- 15 PHD sub-contracts finalized and signed - Mapping pagodas, slum and high risk remote areas to conduct Semi Active Case Finding - Implement Semi ACF in 25 selected sites in 2 ODs.	Additional 25 selected sites of 2 ODs implemented Semi ACF - Provide technical supports as needed to ECH - Semi ACF approaches modified to catch the hard to reach population	- Additional 25 selected sites of same 2 ODs implemented semi ACF	- all sub-contracts developed and signed with 15 sub-contractors - Semi ACF implemented in a total of 100 selected areas under 29 HCs of 2 ODs.	- Sub contracts finalized and signed with PHD counterparts. - Mapping pagodas for Semi ACF and census of elderly people in 29 HCs of Prey Chhor and Tbong Khmum ODs was completed	**Met**	Nine Semi ACF in pagoda were conducted during the reporting period in addition to other activities. CTB will speed up the activities next quarter.
Increased MDR TB case finding among presumptive MDR TB high risk population	3.1.2	- Subcontract with Cambodia Health Committee (CHC) developed and signed - Develop a tool to capture the eligible cases (presumptive MDR-TB patients) that succeed and failed to be reported /referred to diagnosis sites	- Referral of at least 260 presumptive MDR TB (per quarter, from Q2 onward) to diagnosis sites - Monitoring the referral of presumptive MDR TB patients under CTB coverage areas and ensure that reach diagnosis sites, from Q2 onward	- Review the current operation mechanism of MDR-TB implementation to minimize the cost. - Review the performance particularly on the referral of MDR suspects and active case finding for MDR TB	- 800 presumptive MDR TB under CTB coverage areas referred for testing - Tools to track referral developed	- Subcontract with CHC is nearly complete, expected to be done by Jan 2016 - an integrated checklist was developed to capture eligible presumptive MDR TB patients (integrated into supervision checklist)	**Met**	Sub-grant expected to be signed by 01 January 2016.
Childhood TB Strategy	3.1.3	- On site coaching to 21 RHs and to at least 100 HCs of the 21 ODs every quarter - work with Quality Health	On site coaching to additional 100 HCs of the 21 Ods	On site coaching to additional 100 HCs of the 21ODs	Total 21 ODs which covers 316 HCs will implement CTB Childhood TB activities. - 21 RHs and at	**Accomplished** Discussion with ECH on how the two partners work together and how TA will be provided to ECH throughout the year	**Partially met**	Delay in implementation due to competing priority with other activity. Planning and coordination with multi-partners requires time. The field staff of ECH need more time to learn and be familiar with the

		Services, USAID funded project to develop joint supervision plan throughout the year - Provide technical supports to ECH throughout the years			least 300 HCs received on site coaching	Joint supervisions were made between CTB and ECH in order that ECH learns from CTB activities **Not accomplished** Mentoring/coaching to HCs were made. However, only 30% (37 sites) of planned HC visits were accomplished		strategy/tools developed by CTB.
CTB Hospital engagement strategy	3.1.4	Implementation of hospital engagement in existing 5 hospitals - Providing on-the job coaching to supported hospitals, throughout the year		Internal review of hospital engagement activities and Document on "what works, what doesn't work and why"	5 hospitals implemented hospital engagement	- The five existing hospital has been implementing hospital engagement for TB control - CTB provides TA to relevant hospital staff via supportive supervision	**Met**	
TB Control in prison	3.2.1	- 10 prisons implemented TB screening at entry, throughout the year - Develop transition plan and discuss with CENAT and General Department of Prison (GDP), and other partners on transition. - Conduct 10 Quarterly meetings with all 10 prisons	- Track the progress of transition plan - Conduct additional 10 Quarterly meetings with all 10 prisons	Conduct annual ACF in 10 prisons	- ACF conducted in 10 prisons - Successfully hand over the TB activities in prisons to CENAT and partners	10 prisons under CTB screened new inmates at entry (964/964). Quarterly coordination meetings were conducted in the 10 prisons CTB informed/ discussed transition plan with focal persons of national TB program and raised in quarterly coordination meeting.	**Met**	The CTB has already informed the CENAT director of the need for the transition, but there is resistance to this plan. We anticipate further discussions in the next 2 quarters will result in a detailed transition plan

TB Control in prison	3.2.2	Monitor the performance of new inmate screening via supervision and data review, throughout the year		Review of new inmate screening system	- New inmate screening system in place - Review of the tracking system and systematic screening	Monitoring on performance of new inmate screening was conducted and associated data were reviewed. All new inmates (964) were screened, of which 3 were found to have active TB	**Met**	
PMDT: TA to Local partner, CHC	3.2.3	- All CHC technical staff are available to support all MDR sites. -Joint supervision between CTB and CHC to least another additional 5 MDR TB sites in each quarter, - Conduct home visit to all patients at least once a month	- Monitor performance activities implemented by CHC to ensure that all MDR TB cases have enable support, from Q2 onward		- All MDR TB patients received DOTs supported and visited by DOTS watchers on a regular basis, by HC at every month and regularly visited by CHC al least every quarter - All 10 MDR-TB sites have monitored by Joint team.	**Accomplished** Joint supervision has been done by CTB and CHC staff **Not accomplished** Conduct home visit to all MDR patients was not done because activity was still supported by GFATM.	**Partially met**	Subcontract with CHC will start from 01 January 2016.
PMDT: Enablers	3.2.4	- Provide living support and transportation support to 175 MDR TB patients to visit hospitals per scheduled appointment, throughout the year -Work with project Social Health Protection, a USAID funded to pilot financial			- Necessary lab tests support for MDR TB patients - 175 patients get support and quarterly consultation at hospital	The subcontract with CHC effective from Jan-Sep 2016. Before this period, CHC was the sub-recipient of GFATM, therefore support was being provided via GFATM. CTB had been discussed several times with SHP project on the mobilization of resource.	**Met**	Subcontract with CHC will start from 01 January 2016.

		support to the poor throughout the year						
PMDT: Community TB Care	3.2.5	- Conduct health check up and clinical monitoring to 175 MDR TB patients, from Q1 onward- Provide injection/drugs to 175 MDR TB patients on daily basis, throughout the year	- Joint home visit between CTB and HC/OD to DOTS watcher and patient, at least one per quarter, from Q2 onward		175 MDR TB patients get regular clinical monitoring and DOTS treatment	The subcontract with CHC effective from Jan-Sep 2016. Before this period, CHC was the sub-recipient of GFATM, therefore support was being provided via GFATM.	**Met**	

Sub-objective 4. Targeted screening for active TB								
Planned Key Activities for the Current Year	Activity #	Planned Milestones				Milestone status	Milestone met? (Met, partially, not met)	Remarks *(reason for not meeting milestone, actions to address challenges, etc.)*
		Oct-Dec 2015	Jan-Mar 2016	Apr-Jun 2016	Year end	Oct-Dec 2015		
Implementation of contact investigation (CI) (household and neighbor contact) (including children)	4.1.1	- CI implemented in 316 HC of 21 ODs, from Q1 onward. - Share tools and materials to ECH for the implementation of CI. - Provide technical support to ECH as needed throughout the year	Monitoring support and coaching on CI to all HCs of 21 ODs in every quarter	Review CI tools	- CI implemented in 262 HCs (21 ODs) - CI tool reviewed	469 CI were conducted in reporting period of Oct-Dec (80% of eligible TB patients in the reporting period) CI tools were shared and used by ECH who implement CI in their respective coverage areas under TA from CTB	**Met**	
TB Control in Prison	4.1.2	CI made in cell where TB positive case found in all 10 prisons, throughout the year	Monitor the progress of activities, tracking number of smear positive patients and CI conducted, from Q2 onward		- 10 prisons under CTB conducted CI - Contact investigation conducted of all smear positive TB index	5 CI conducted in cells (5 index found to have bacteriologically confirmed through routine screening). Among these 5 CI, no additional TB cases were identified. There was a massive symptom screening among prisoners in 10 prisons. 6,205 prisoners were symptomatic screened for TB. Out of those, 260 (4%) prisoners were identified as presumptive TB patients. Of those, 8 (%) prisoners was diagnosed as TB (5 bacteriologically confirmed via smear microscopy and 3 clinically confirmed)	**Met**	

Sub-objective 5. Infection control								
Planned Key Activities for the Current Year	Activity #	Planned Milestones				Milestone status	Milestone met? (Met, partially, not met)	Remarks *(reason for not meeting milestone, actions to address challenges, etc.)*
		Oct-Dec 2015	Jan-Mar 2016	Apr-Jun 2016	Year end	Oct-Dec 2015		
TB-IC implementation in hospitals, prisons and community	5.1.1	- Develop an instruction for TB IC (basic administrative and environmental measure) for health facility level align with the national TB IC SOP - Discussion with director of hospital/prisons and staff on the administrative procedure for TB-IC at 10 prisons and 5 hospitals	- Baseline assessment on administrative and environmental TB-IC measure and practice conducted in selected 29 health facilities - Modify TB IC checklist for community level and used - Implementation of TB IC in 15 facilities (RH and Prisons), from Q2 onward	- Implementation of TB IC) at community level under 29 HCs , from Q3 onward	- 15 facilities (RH and Prisons) implement TB IC, and TB IC at community level implemented under 29 HCs under CTB coverage - Report of the baseline assessment	Proper patient flow for cough triage among OPD patients has been implemented in five referral hospitals. The airflow at the general triage areas of those five hospitals is adequate. Basic TBIC was discussed with key persons in hospitals and 10 prisons including hospital directors of the five hospitals.	**Met**	CTB provided standing fan at the TB ward and not in general triage.
TB screening among HCW screening in hospital	5.2.1	Discussion with NTP and hospital directors on TB screening among HCW	- Identify and select 2 hospitals for TB screening - Enroll HCWs for TB screening	TB screening among 250 HCW in selected hospitals	Report on TB screening among HCW	Discussion with relevant partners was made with regard to TB screening among HCW. CTB plans to screen HCW in Korng Pisey and Kampong Speu hospitals in June. It was agreed that a similar screening algorithm will be used at those hospitals. CTB team will further discuss with directors of those two hospitals on the plan.	**Met**	

Sub-objective 6. Management of latent TB infection								
Planned Key Activities for the Current Year	Activity #	Planned Milestones				Milestone status	Milestone met? (Met, partially, not met)	Remarks *(reason for not meeting milestone, actions to address challenges, etc.)*
		Oct-Dec 2015	Jan-Mar 2016	Apr-Jun 2016	Year end	Oct-Dec 2015		
Isoniazid Preventive Therapy (IPT) for children under 5	6.1.1	- IPT activity implemented in 316 HCs of 21 ODs , throughout the year- Monitoring support to IPT implemented sites, throughout the year - Provide technical support to ECH as needed- 570 eligible children enrolled for IPT	- Provide technical support to ECH as needed- 570 eligible children enrolled for IPT	- 570 eligible children enrolled for IPT- Training module on Childhood TB that developed by KNCV were translated and use for coaching	- Total of 316 HCs implemented IPT activities. - 2,300 eligible children enrolled for IPT	**Accomplished** The IPT activities were implemented in HCs under CTB geographic responsibility. Forms/tools were instructed and shared with ECH. **Not accomplished** There were 283 children (target at 570) with close contact with bacteriologically confirmed TB who were enrolled for IPT	**Partially met**	Approximately 20% of children are eligible for IPT but none of them initiated IPT because parents refused to have their children enrolled. More awareness on IPT to be raised to communities is needed.

Sub-objective 7. Political commitment and leadership								
Planned Key Activities for the Current Year	Activity #	Planned Milestones				Milestone status	Milestone met? (Met, partially, not met)	Remarks *(reason for not meeting milestone, actions to address challenges, etc.)*
		Oct-Dec 2015	Jan-Mar 2016	Apr-Jun 2016	Year end	Oct-Dec 2015		
National strategic plan on TB control finalized	7.1.1	finalization of NSP on TB control	Review and monitor the response of key strategies	Identify gaps for GFATM application	NSP on TB control fully implemented nationwide Identify gaps for resource mobilization	The NSP 2014-2020 was finalized.	**Met**	

Sub-objective 8. Comprehensive partnerships and informed community involvement								
Planned Key Activities for the Current Year	Activity #	Planned Milestones				Milestone status	Milestone met? (Met, partially, not met)	Remarks *(reason for not meeting milestone, actions to address challenges, etc.)*
		Oct-Dec 2015	Jan-Mar 2016	Apr-Jun 2016	Year end	Oct-Dec 2015		
Key staff of CTB be a member of Cambodia Coordinating Committee (CCC) and Principal Recipient of Technical Review Panel (PRTRP) of GF	8.2.1	CTB staff attended CCC and quarterly PRTRP meetings and provide inputs on both technical and financial areas	Evaluate GFATM implementation and provide input to improve quality and progress toward targets with the goal to improve GFATM ratings	Continue to provide inputs on implementation, progress toward targets	GFATM performance rating maintained at "A" level	CTB staff has attended the meeting and provide critical comments on both technical and programmatic areas (see the narrative section)	**Met**	

Sub-objective 10. Quality data, surveillance and M&E								
Planned Key Activities for the Current Year	Activity #	Planned Milestones				Milestone status	Milestone met? (Met, partially, not met)	Remarks *(reason for not meeting milestone, actions to address challenges, etc.)*
		Oct-Dec 2015	Jan-Mar 2016	Apr-Jun 2016	Year end	Oct-Dec 2015		
Drug Resistance Surveillance	10.2.1	Development of technical working group to assist in preparation of protocol	Drafting the protocol	Near-final draft of DRS distributed to TWG and circulated for comments	Drug Resistance Surveillance conducted	CTB involved in the development of protocol development and provided input into the draft protocol. The discussion on the development of protocol was integrated into TWG on MDR-TB whenever possible. However, there is no specific TWG on DR survey.	**Met**	
Operational Research	10.2.2	Two OR protocols and tools developed	Data collection of both ORs	-Data analysis of OR number 1 -Discuss the findings - Prepare reports of OR number 1	- OR report in draft (OR 1)- Preliminary findings for OR 2.	OR protocol was under the development process. - The conference calls with the consultant on the study design was made and literature review was done by consultant prior to her arrival to Cambodia.	**Partially met**	Unavailability of Kerri Viney, consultant and long holidays at the end of year. The consultant will come in early January and OR protocol and tools are expected to finalize by end of January for implementation.
Internal Data Quality Improvement (IDQI) at OD and HC levels	10.2.3	Implementation of IDQI in 65 HCs in 9 Ods	Implementation of IDQI in additional 65 HCs in 9 Ods	-Monitor/ conduct spot check to IDQI at HC level conducted by OD TB supervisors - conduct internal review on recording and reporting at	- Implementation of IDQI in 15 ODs - draft report on the review	**Not accomplished** IDQI has been conducting in 16 HCs in quarter 1	**Partially met**	Delay in implementation due to competing priorities of other activities such as sub-grant development (16 grants to be developed) CTB will mobilize human resources from the government to speed up the activities

				OD and HC level				

Sub-objective 11. Human resource development								
Planned Key Activities for the Current Year	Activity #	Planned Milestones				Milestone status	Milestone met? (Met, partially, not met)	Remarks *(reason for not meeting milestone, actions to address challenges, etc.)*
		Oct-Dec 2015	Jan-Mar 2016	Apr-Jun 2016	Year end	Oct-Dec 2015		
Provide capacity building to C-DOT volunteers, health center and OD staff especially to those who are new or replaced turnover staff via supportive supervision	11.1.1	- Monitor and follow up after the training to ensure the quality of performance after training - At least 80 supportive supervision conducted	At least 80 supportive supervision conducted	At least 80 supportive supervision conducted	-Monitoring and coaching conducts according to monitoring plan - 3,930 persons received training/coaching -322 supportive supervision conducted	86 Supportive supervisions to the field after training were conducted on a regular basis.	**Met**	

3. Challenge TB's support to Global Fund implementation in Year 2

Current Global Fund TB Grants

Name of grant & principal recipient *(i.e., TB NFM - MoH)*	**Average Rating***	**Current Rating**	**Total Approved Amount**	**Total Disbursed to Date**	**Total expensed** *(if available)*
New fund model (NFM) Cambodia TB (Year of signing: 2015 and PR: CENAT)**	A2	A1	$15,664,272	$2,840,898	Not available

** Since January 2010, ** http://www.aidspan.org/country_grant/KHM-T-CENAT*

In-country Global Fund status - key updates, current conditions, challenges and bottlenecks

Supervision. The country faced serious problems with GF grant implementation in 2015, which led to rapid decrease in bacteriological testing and case finding. Both parties reached an agreement only in November 2015. But by then, the program had suffered from lack of almost all national level supervision, and part of the subnational supervision. This lack of supervision damaged the program considerably because many new things in the New Funding Mechanism could not be implemented as planned. The program needs to make up for the lost time and opportunities, in the coming months, to reverse the damage.

Patients' costs. Many instances of informal payments for services and significant out-of-pocket expenditure by key affected populations continue to pose great challenges to ending TB. These often lead to catastrophic costs for many TB patients.

Supply of drugs. The country continues to rely on manual monitoring of drugs. The tool is not great and often leads to shortages of drugs at the national and subnational levels. Stocks at the subnational level are insufficiently monitored. Alert systems at the national level need to improve.

Challenge TB & Global Fund - Challenge TB involvement in GF support/ implementation, any actions taken during this reporting period

Supervision. (1) In spite of the challenges of supervision mentioned above, the CTB team was able to conduct and support supervision in many CTB and non-CTB areas, including supervision that was combined with an operational research for assessing quality of diagnosis of childhood TB in about 25 operational districts. (2) The WHO (as a "neutral" member of the CCC and CCOC) was responsible for suggesting a middle-way out for the two parties (GF and government): use "notional" hotel receipts (on a simple piece of paper) instead of formal bills, when formal bills cannot be produced (e.g., for village stays). This suggestion was important for overcoming the stalemate between the two parties.

Patients' costs. Instances of informal payments by patients to service providers have come up consistently during the country dialogue in 2014, the WHO discussed about it in many Country Coordinating Oversight Committee (CCOC) and Country Coordinating Committee (CCC) meetings in 2015, including through presentations and feedback of supervisory visits. Thereafter, the CCOC members informed the GF and USAID about it. Both have promised to use their influence to curb this menace, which serves as a serious barrier to care for poor TB patients. In addition, the USAID is advocating for HEF (Health Equity Funds) benefit package

for TB and HIV patients with greater favor in future, particularly to minimize patients' costs related to transport. HEF has been almost nonexistent for TB patients until now, although it is supposed to serve those who are below the poverty line.

Supply of drugs. WHO raised the issue of shortages of drugs with the GF and USAID recently, when USAID is negotiating with the government about continuing support through drug grants. These shortages are primarily due to a weak LMIS (Logistics Management Information System). USAID has promised to make LMIS establishment a condition precedent for electronic LMIS.

4. Success Stories – Planning and Development

Planned success story title:	Tracing TB source to end TB
Sub-objective of story:	4. Targeted screening for active TB
Intervention area of story:	4.1. Contact investigation implemented and monitored
Brief description of story idea:	Describe about the planned efforts to intensify TB case finding via targeting high risk population. The story will also present the importance of community acceptability of TB case finding efforts and the expression of community on the approach in term of accessibility to TB diagnosis and the scalability of the program.
Status update: The intervention has already been implemented in the community via village health support groups under CTB in more than 400 HCs. We have collected relevant information and data for the write up of the story.	

5. Quarterly reporting on key mandatory indicators

Table 5.1 MDR-TB cases detected and initiating second line treatment in country (national data)

Quarter	Number of MDR-TB cases detected	Number of MDR-TB cases put on treatment	Comments:
Total 2010	31	41	There are 3 RR-TB detected patients among low risk population which put on FLD and follow up. There was no supervision from the national TB program to the field due to unapproved travel plan and per diem rate from GFATM. Re enforcement and motivation were absent at field level for 8 months.
Total 2011	56	83	
Total 2012	117	110	
Total 2013	131	121	
Total 2014	121	110	
Jan-Mar 2015	20	17	
Apr-Jun 2015	21	18	
Jul-Sep 2015	24	27	
Oct-Dec 2015	12	12	
Total 2015	77	74	

Table 5. 2 Number and percent of cases notified by setting (i.e. private sector, prisons, etc.) and/or population (i.e. gender, children, miners, urban slums, etc.) and/or case finding approach (CI/ACF/ICF)

		Reporting period					Comments
		Oct-Dec 2015	Jan-Mar 2016	Apr-Jun 2016	Jul-Sept 2016	Cumulative Year 2	
Overall CTB geographic areas	TB cases (all forms) notified per CTB geographic area *(List each CTB area below - i.e. Province name)*						National data only available next quarter. For ODs where childhood activities being implemented, only number of children diagnosed with TB was included
	Battambang (3 ODs) – 2 FULL[3] and 1 CHILDHOOD[4]	499					
	Kampot (1 OD) - childhood	2					
	Kampong Cham (4 ODs) – 1 FULL and 3 CHILDHOOD	36					
	Kampong Chhnang (2 ODs) - CHILDHOOD	23					
	Kampong Speu (2 ODs) - FULL	323					
	Kampong Thom (1 OD) - CHILDHOOD	4					
	Prey Veng (5 ODs) - CHILDHOOD	163					
	Pursat (2 ODs) - CHILDHOOD	236					
	Svay Rieng (1 OD) - CHILDHOOD	39					
	Tbong Khmum (1 OD) - FULL	27					
	TB cases (all forms) notified for all CTB areas	1,352					
	All TB cases (all forms) notified nationwide (denominator)	n/z					
	% of national cases notified in CTB geographic areas						
Intervention (setting/population/approach)							
Children (0-14)	CTB geographic focus for this intervention The above geographic areas)	See list above					
	TB cases (all forms) notified from this intervention	435					
	All TB cases notified in this CTB area (denominator)	1,352					
	% of cases notified from this intervention	32%					

[3] "FULL" means there are the activities of Community Directed Conservative Treatment and Childhood TB
[4] "CHILDHOOD" means there is only the activity of childhood TB

Intensified case finding (ICF) (e.g. health facility-based case finding)	CTB geographica areas: Five hospitals Battambang, Moung Russey, Sampove Meas, Kampong Speu and Korng Pisey						There were 661 TB cases diagnosed in the five hospitals. 238 is the number of TB patients diagnosed and registered in hospitals, excluding number of TB patients diagnosed in hospitals and referred to HC for treatment (423).
	TB cases (all forms) notified from this intervention	238					
	All TB cases notified in this CTB area (denominator)	917					
	% of cases notified from this intervention	26%					

Data from semi-active case finding (among the elderly) and from contact investigations will be tracked in the future.

6. Challenge TB-supported international visits (technical and management-related trips)

#	Partner	Name of consultant	Planned quarter				Specific mission objectives	Status (cancelled, pending, completed)	Dates completed	Duration of visit (# of days)	Additional Remarks (Optional)
			Q 1	Q 2	Q 3	Q 4					
1	FHI360	Camille Saade	x				Review the previous approach, provide recommendation and fine-tune of the PPM model. The project mainly works with pharmacists and private providers at clinics.	Pending			The new consultant, Dr Oommen George, has been proposed. TOR and travel concurrence had been submitted to The Mission on 20 November 2015 and await for response.
2	FHI360	TBD					Develop an operation guideline for laboratory microscopy, expert, culture and DST.	Pending			Delay for the request due to many competing priorities of CENAT staff.
4	FHI360	Carol Hamilton				x	1. Support the development of CTB workplan 2. Provide technical support and review the CTB program implementation	Pending			
	KNCV	Susan Van den Hof		x			Impact evaluation of all cased finding and treatment outcomes	Pending			
7	KNCV	Agnes Gebhard			x		Review the current PMDT approach that CHC implements	Pending			
8	KNCV	Kathleen England	x				Develop Laboratory Guideline on smear microscopy, Xpert, culture and DST	Pending			Delay for the request due to many competing priorities and it requires time to negotiate with NTP. A clear TOR and milestone need to develop to get it done.
9	WHO	Kerri Viney	x				Development of Operational Research protocol on cluster randomized control trial. Control Arm: Semi Active Case Finding and Contact Investigation versus Intervention Arm: Semi Active	Pending			11-22 Jan 2016

							Case Finding, Contact Investigation and Active Case Finding				
Total number of visits conducted (cumulative for fiscal year)								0			
Total number of visits planned in approved work plan								9			
Percent of planned international consultant visits conducted								0%			

7. Quarterly Indicator Reporting

Sub-objective:	1. Enabling Environment					
Performance indicator	**Disaggregated by**	**Frequency of collection**	**Baseline (timeframe)**	**End of year target**	**Results to date**	**Comments**
1.1.3. #/% of public sector/parastatal care facilities that report TB cases to the NTP (stratified by type: military, social security, etc.)	RH, HC	annually	404 (RH=5 Prisons=10; HC=389)	377 (RH=8; Prison=10; HC=359) (93 %)		Report on annual basis

Sub-objective:	2. Comprehensive, high quality diagnostics					
Performance indicator	**Disaggregated by**	**Frequency of collection**	**Baseline (timeframe)**	**End of year target**	**Results to date**	**Comments**
2.1.2. A current national TB laboratory operational plan exists and is used to prioritize, plan and implement interventions.		annually	0 (2014)	2		Report on annual basis
2.2.1. #/% of laboratories enrolled in EQA for smear microscopy		annually	NA (2014)	18% (40 /215)		Report on annual basis
2.2.6. Number and percent of TB reference laboratories (national and intermediate) within the country implementing a TB-specific quality improvement program i.e. Laboratory Quality Management System (LQMS).		annually	100% 1/1	100% 1/1		Report on annual basis
2.2.7. Number of GLI-approved TB microscopy network standards met		annually	NE	NE		Report on annual basis
2.3.1. Percent of bacteriologically confirmed TB cases who are tested for drug resistance with a recorded		annually	15% 1,975/12,747	17% 2,292/13,413		Report on annual basis

Sub-objective:	2. Comprehensive, high quality diagnostics					
Performance indicator	**Disaggregated by**	**Frequency of collection**	**Baseline (timeframe)**	**End of year target**	**Results to date**	**Comments**
result.						
2.4.2. #/% of Xpert machines that are functional in country (stratified by Challenge TB, other)	CTB	annually	56% (26/46)	100% (46/46)		Report on annual basis

Sub-objective:	3. Patient-centered care and treatment					
Performance indicator	**Disaggregated by**	**Frequency of collection**	**Baseline (timeframe)**	**End of year target**	**Results to date**	**Comments**
3.1.1. Number and percent of cases notified by setting (i.e. private sector, pharmacies, prisons, etc.) and/or population (i.e. gender, children, miners, urban slums, etc.) and/or case finding approach		quarterly	43,738 (2014) (6,529 (2014, 9 ODs, CTB supported sites (Baseline by case finding approach will be set in Y2)	40,300 (2016) (7,200) CTB (~10% increase)	1,352	Delay in implementation semi ACF and CI activities due to competing priority with other activity. Planning and coordination with multi-partners requires time. The field staff of ECH need more time to learn and be familiar with the strategy/tools developed by CTB (see more detail in section 5.2)
3.1.4. Number of MDR-TB cases detected		quarterly	121(2013)	145	12	There was no supervision from the national TB program to the field due to unapproved travel plan and per diem rate from GFATM.
3.1.8. % of TB cases (all forms) diagnosed among children (0-14)		annually	39% (5,756/15,593; 2014, in 21 ODS)	20% (3,430 /17,152)	435	Report on annual basis; refer to Table 5.2 for data on CTB areas.
3.1.10. #/% of prisons conducting regular screening for TB		annually	10 (CTB supported sites)	10 (100%)		Report on annual basis
3.1.11. #/% of prisons conducting screening for TB with chest X-ray		annually	10 (CTB supported sites)	10 (100%)		Report on annual basis
#/% of new inmates screened		quarterly	320 (100%)	400 (100%)	964 (100%)	
#/% of new inmates diagnosed with TB		quarterly	0	0.004% (of new inmates screened)	3 (0.3%)	
3.2.1. Number and percent of TB cases successfully treated (all forms) by setting (i.e. private sector, pharmacies, prisons, etc.) and/or by population (i.e. gender, children, miners, urban slums, etc.).	CTB	annually	NA (2016)	> 95% 38,290/40,300 (6,840/7,200) CTB		Report on annual basis
3.2.4. Number of MDR-TB cases		quarterly	121 (2013)	145	12	The number of MDR-TB decreased this

Sub-objective:	3. Patient-centered care and treatment					
Performance indicator	**Disaggregated by**	**Frequency of collection**	**Baseline (timeframe)**	**End of year target**	**Results to date**	**Comments**
initiating second-line treatment						quarter due to the stalemate of supervision activities of NTP and the activities to intensify case finding have not been implemented as plan. CTB will ensure to intensify the case notification when CTB takes over.
3.2.5. # health facilities w/ PMDT services		quarterly	10	10 (100%)	10	
3.2.6. #/% of presumptive MDR-TB referrals that reach the PMDT site		annually	NA (2016)	95%		Report on annual basis
3.2.7. Number and percent of MDR-TB cases successfully treated		annually	79% (87/110; 2012)	> 75%		Report on annual basis
3.2.19. Treatment success rate of TB patients diagnosed in prison	CTB (10 prisons)	annually	92% (2013)	> 92%		Report on annual basis
3.2.24. % MDR patients who receive social or economic benefits		quarterly	NA (2016)	175	156	

Sub-objective:	4. Targeted screening for active TB					
Performance indicator	**Disaggregated by**	**Frequency of collection**	**Baseline (timeframe)**	**End of year target**	**Results to date**	**Comments**
4.1.1. #/% of eligible index cases of TB for which contact investigations were undertaken	TB index, MDR TB index	quarterly	NA (will be set in 2016)	TBD	80% (469/588)	More bacteriologically confirmed found at the end of quarter, the contact investigations for eligible index cases will be undertaken in the next quarter
4.1.2. #/% of children (under the age of five) who are contacts of bacteriologically-confirmed TB cases that are screened for TB		quarterly	NA (will be set in 2016)	TBD	421	

Sub-objective:	5. Infection control					
Performance indicator	**Disaggregated by**	**Frequency of collection**	**Baseline (timeframe)**	**End of year target**	**Results to date**	**Comments**
5.1.1. Status of TB IC	CTB	annually	2	2		Report on annual basis

Sub-objective:	5. Infection control					
Performance indicator	**Disaggregated by**	**Frequency of collection**	**Baseline (timeframe)**	**End of year target**	**Results to date**	**Comments**
implementation in health facilities						
5.1.2. #/% of health facilities implementing TB IC measures with Challenge TB support (stratified by TB and PMDT services)	RH, HC	annually	3.7% 15 /404	4.8% 18 /377		Report on annual basis
5.2.3. Number and % of health care workers diagnosed with TB during reporting period	CTB	annually	NA (2014)	6/250 (2.5%)		Report on annual basis
5.2.6. #/% of HCW screened for TB	CTB	annually	NA(2014)	250		Report on annual basis

Sub-objective:	6. Management of latent TB infection					
Performance indicator	**Disaggregated by**	**Frequency of collection**	**Baseline (timeframe)**	**End of year target**	**Results to date**	**Comments**
6.1.1. Status of implementing LTBI diagnosis and treatment strategies (0=no policy or practice in place; 1=policies have been developed/updated; 2=LTBI strategies piloted or implemented in limited settings; 3=LTBI strategies implemented nationally		annually	2	3		Report on annual basis
6.1.2. % of eligible persons completing LTBI treatment, by key population and adherence strategy	children	Annually	95% (1965/2050) 2013 cohort, March 2015 report	> 95%		CTB found it difficult to collect it on quarterly basis. This requires a lot of efforts and time as it is no report at HC or OD level. We propose to report on annual basis
6.1.11. Number of children under the age of 5 years who initiate IPT		quarterly	2,300 NTP report March 2015	2,300	283	Approximately 20% of eligible children had parents who refused to have their children enrolled for IPT. Awareness raising is needed to community. CTB will remind VHSG during their bi monthly meeting on this.

Sub-objective:	7. Political commitment and leadership

Performance indicator	Disaggregated by	Frequency of collection	Baseline (timeframe)	End of year target	Results to date	Comments
7.1.2. Status of NSP development: 0=The NSP is expired or not being implemented; 1=An updated/new NSP is being drafted; 2=NSP has been developed and costed; 3=NSP has been finalized, endorsed by the government and implemented		annually	3	3		Report on annual basis
7.2.3. % of activity budget covered by private sector cost share, by specific activity		annually	NA (2014)	NA		Report on annual basis

Sub-objective:	8. Comprehensive partnerships and informed community involvement					
Performance indicator	**Disaggregated by**	**Frequency of collection**	**Baseline (timeframe)**	**End of year target**	**Results to date**	**Comments**
8.1.3. Status of National Stop TB Partnership		annually	0 (not exist until present)	NA		Report on annual basis
8.1.4. % of local partners' operating budget covered by diverse non-USG funding sources		annually	0 (2014)	79% (1.46M/1.85M)		Report on annual basis
8.2.1. Global Fund grant rating		annually	A	A2	NA	Report on annual basis

Sub-objective:	9. Drug and commodity management systems					
Performance indicator	**Disaggregated by**	**Frequency of collection**	**Baseline (timeframe)**	**End of year target**	**Results to date**	**Comments**
9.1.1. Number of stock outs of anti-TB drugs, by type (first and second line) and level (ex, national, provincial, district)		annually	0 (2014)	NA		Report on annual basis

Sub-objective:	10. Quality data, surveillance and M&E					
Performance indicator	**Disaggregated by**	**Frequency of collection**	**Baseline (timeframe)**	**End of year target**	**Results to date**	**Comments**
10.1.4. Status of electronic recording and reporting system		annually	2 (2014)	2		Report on annual basis
10.2.1. Standards and benchmarks to certify surveillance systems and vital registration for direct measurement of TB burden have been implemented		annually	No (2014)	TBD		Report on annual basis

Sub-objective:	10. Quality data, surveillance and M&E					
Performance indicator	**Disaggregated by**	**Frequency of collection**	**Baseline (timeframe)**	**End of year target**	**Results to date**	**Comments**
10.2.3. DR-TB surveillance survey conducted/completed in the last 5 years		annually	No	Yes		Report on annual basis
10.2.4. #/% of operations research, evaluation or epidemiological assessment study results disseminated (stratified by level of dissemination: report, presentation, publication)		annually	0 (2014)	2 (100%)		Report on annual basis
10.2.6. % of operations research project funding provided to local partner (provide % for each OR project)		annually	NA	11% (16K/146K)		Report on annual basis
10.2.7. Operational research findings are used to change policy or practices (ex, change guidelines or implementation approach)		annually	NA	NA		Report on annual basis

Sub-objective:	11. Human resource development					
Performance indicator	**Disaggregated by**	**Frequency of collection**	**Baseline (timeframe)**	**End of year target**	**Results to date**	**Comments**
11.1.2. % of planned supervisory visits conducted (stratified by NTP and Challenge TB funded)		quarterly	69% (91/132) (CTB)	322 /322 (100%) (CTB)	86 (80 visits planned)	Report on quarterly basis
11.1.3. # of healthcare workers trained, by gender and technical area	CTB	quarterly	NA	3,935	455 (F=182)	Report on quarterly basis
11.1.5. % of USAID TB funding directed to local partners	CTB	annually	NA (will be collected in 2016)	18% (400K/2.2M)		Report on annual basis